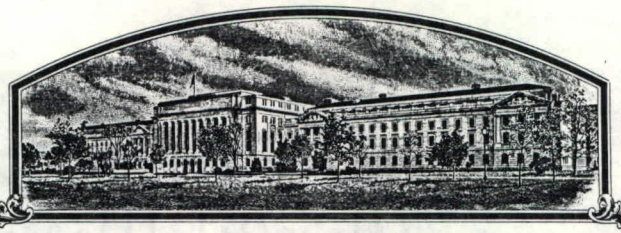
No. 8100042



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Ferry-Morse Seed Company

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF eighteen YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, R IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT IETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT AT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

BEAN

'Producer'

In Testimony Whereof, *I have hereunto set my hand and caused the seal of the* Plant Variety Protection Office *to be affixed at the City of* Washington *this* 24th *day of* March *in the year of our Lord one thousand nine hundred and* eighty-three.

Attest:

Kenneth A. [illegible]
Acting
Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

John R Block
Secretary of Agriculture

VARIETY: Producer (formerly E8268 (formerly 1D-20(C)Ms(W)Ms(C)Ms (formerly 1C-X1166J7(W)B6)))

Exhibit A: Origin and Breeding History of the Variety

Producer originated through the pedigree method of breeding as an F_6 selection from the cross designated as 1C-X1166. The seed parent represented several F_1 plants resulting from the intercrossing in all possible combinations of F_1 plants showing in their F_2 progenies high heritability for upright, strong plant habit; Varieties involved in the parentage of these F_1 intercrosses included Gallatin 50, Early Harvest, Harvestor, Cascade, Improved Higrade, Orbit, Avalanche, Bonus, Gator Green, and Idelight. The pollen parent of 1C-X1166 was Olympia. The original cross was made in the greenhouse at San Juan Bautista in the winter of 1969-70. The F_{10} generation bulk mass of seed was designated the stock seed for Producer in the spring of 1980.

F_2 seed of 1C-X1166 was planted in the field at San Juan Bautista, California, in the summer of 1972; nine F_2 selections for stiff, upright habit and heavy yield were taken from the row.

The nine 1C-X1166 F_3 progeny rows were planted in the summer of 1972 in California; the ninth row, 1C-X1166J, stood out for its tall plant habit and smooth pods and was given an excellent field rating. Thirty-three F_3 selections were taken from this row.

The F_4 progeny rows taken from 1C-X1166J were planted out in Columbus, Wisconsin, in the summer of 1973. The seventh row, 1C-X1166J7, was noted to have good seed vigor, was early maturing, and its pods exhibiting a medium small seed cavity; seven selections were made.

The seven F_5 progeny rows were planted in the field in Wisconsin in 1974. The second row, 1C-X1166J7(W)B, was striking for its upright habit, heavy yield, and full pod; it was given an excellent field rating; ten single plant selections were taken.

The F_6 progeny rows of these selections were planted to the field in Wisconsin in 1975. The 6th selection, 1C-X1166J7(W)B6, stood out for its very good concentration, very heavy pod yield and well-filled pods. The F_7 seed was bulk-massed from this row and designated 1D-20.

From 1976 to 1978 1D-20 was put under intensive trial testing in Wisconsin, New York, and Oregon and went through three generations of seed increase under Ferry-Morse Research Division direction. The possible new variety, 1D-20, continued through the testing period to stand out for its stiff, upright, tall, medium narrow plant, for its early maturity, and heavy concentrated yield of 5½-6" round, medium green pods.

During three generations of seed increase under Research Division care, 1D-20 showed good stability of its characteristics and no pod rogues were noted among approximately 30,000 plants grown during the three generations of increase.

JAN 16 1981

Exhibit A: Origin and Breeding History of the Variety (cont'd)

The decision by Ferry-Morse to increase 1D-20 as a new variety and to sample to potential customers was made in the late winter/ early spring of 1979; 1D-20 was redesignated E8268. The 1.5 acre increase of the line contained 1 oval pod-type per 200 plants.

E8268 was named Producer in the early summer of 1980.

JAN 16 1981

VARIETY: Producer (formerly E8268 (formerly 1D-20(C)Ms(W)Ms(C)Ms (formerly 1C-X1166J7(W)B6)))

B - per letter of 2/10/81 from D.V. Brondyke CKS

Exhibit ~~D~~: Data Indicative of Novelty

Producer combines a very early maturity with a strong plant habit and pods held high off the ground. It is most similar to the variety, Provider, in its maturity, plant, and pod characteristics. It is distinct from Provider in having white seed, a slightly shorter pod, and fewer seed per pod. (PROVIDER HAS PURPLE SEED - R/S)

Measurements (100 paired comparisons) were taken in early September from a 1980 field planting at Columbus, Wisconsin.

	Producer	Provider	$\bar{d}$	$s_{\bar{d}}$	t	p
Pod length cm	13.8	14.8	1.055	.161	6.55	$<.001$
Seed per pod	5.7	7.0	1.28	.133	9.77	$<.001$

JAN 16 1981

VARIETY: Producer (formerly E8268 (formerly 1D-20(C)Ms(W)Ms(C)Ms (formerly 1C-X1166J7(W)B6)))

D per letter of 3/10/81 from D.V. Brondyke CRBrowne 6/29/81

Exhibit ~~B~~: Botanical Description of the Variety

Seed germination and emergence is at a medium rapid rate with a medium vigorous seedling growth. Time of flowering is early (similar to Provider). The pods reach edible maturity early (similar to Provider, 1-2 days ahead of Olympia). Seed development in the pods is at a moderate rate.

Bush plants are upright, narrow, medium tall. Foliage color is medium dark green (similar to Provider). Leaves are medium large (15 cm long x 12 cm wide for the center leaflet of the second trifoliate above the unifoliate leaf), deltoid ovate, acuminate, with round or truncated bases. Leaves are medium in number. Stems and leaves are smooth to moderately pubescent. Inflorescences arise from the apex and leaf axils and contain four to eight white flower buds. Stems of plant are medium thick and strong. Pods are borne high in the plant, occasionally exposed above the foliage, seldom touching the ground.

Pods vary from 10 to 16 cm, but average approximately 15 cm in length. Pods are generally round to slightly creaseback, 10 mm from suture to suture and 11 mm from side-wall to side-wall. Pods reach a medium large diameter (13 mm x 14 mm) just before becoming over-mature. Pods are generally straight; pod surface is slightly pubescent; pod spur is medium short in length (11 mm). Pod color is a medium to medium dark green (slightly darker than Provider). The pod flesh is moderate in firmness, pod seed cavity is medium in size.

Pod interior is generally free of interlocular cavitation, but may express it under cool, wet conditions.

Seed are white, round in cross-section, oblong, medium in size.

JAN 16 1981

8100042

EXHIBIT "E"

Plant Variety Protection Application

No:_____

ASSIGNMENT

I, DR.GEORGE C. EMERY, agree and hereby do transfer and assign to FERRY-MORSE SEED COMPANY all of my rights, title, and interest in and to that certain variety namely, SNAP BEAN-PRODUCER, for which application Plant Variety Protection Certificate has been filed. This agreement shall be binding on my administrators, successors and assigns.

In Witness Whereof, I have executed this agreement this 9 day of December, 1980.

BREEDER

George C. Emery

DR. GEORGE C. EMERY

JAN 16 1981

INSTRUCTIONS

GENERAL: Send an original copy of the application and exhibits, at least 2,500 viable seeds, and $500 fee ($250 filing fee and $250 examination fee) to U.S. Dept. of Agriculture, Agricultural Marketing Service, Livestock, Poultry, Grain and Seed Division, Plant Variety Protection Office, National Agricultural Library Building, Beltsville, Maryland 20705. (See section 180.175 of the Regulations and Rules of Practice.) Retain one copy for your files. All items on the face of the form are self-explanatory unless noted below.

ITEM

5 Give the date the applicant determined that he had a new variety based on (1) the definition in section 41(a) of the Act and (2) the date a decision was made to increase the seed.

13a Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified and (4) evidence of uniformity and stability.

13b Give a summary statement of the variety's novelty. Clearly state how this novel variety may be distinguished from all other varieties in the same crop. If the new variety most closely resembles one or a group of related varieties: (1) identify these varieties and state all differences objectively; (2) attach statistical data for characters expressed numerically and demonstrate that these differences are significant; and (3) submit, if helpful, seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty.

13c Fill in the Exhibit C, Objective Description form, for all characteristics for which you have adequate data.

13d Describe any additional characteristics that are not described, or whose description cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the description of characteristics that are difficult to describe, such as, plant habit, plant color, disease resistance, etc.

14a If "YES" is specified (seed of this variety be sold by variety name only as a class of certified seed) the applicant may NOT reverse his affirmative decision after the variety has either been sold and so labeled, his decision published, or the certificate has been issued. However, if the applicant specified "NO," he may change his choice. (See section 180.16 of the Regulations and Rules of Practice.)

JAN 16 1981

15a See section 42 of the Plant Variety Protection Act and section 180.7 of the Regulations and Rules of Practice.

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, POULTRY, GRAIN & SEED DIVISION

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: *See Reverse.*

FORM APPROVED
OMB NO. 40-R3822

No certificate for plant variety protection may be issued unless a completed application form has been received (5 U.S.C. 553).

1a. TEMPORARY DESIGNATION OF VARIETY	1b. VARIETY NAME	FOR OFFICIAL USE ONLY
E8268	PRODUCER	PV NUMBER 8100042
2. KIND NAME: Snap Bean	3. GENUS AND SPECIES NAME: Phaseolus Vulgaris L.	FILING DATE 1/16/81 / TIME 1:00 A.M. (P.M.)
4. FAMILY NAME (BOTANICAL): Leguminosae	5. DATE OF DETERMINATION: Spring, 1979	FEE RECEIVED $ 500.00 $ 250.00 / DATE 1/16/81 2/7/83

6. NAME OF APPLICANT(S)	7. ADDRESS (*Street and No. or R.F.D. No., City, State, and ZIP Code*)	8. TELEPHONE AREA CODE AND NUMBER
FERRY-MORSE SEED COMPANY Dr. George C. Emery Breeder	111 Ferry-Morse Way Drawer 7274 Mountain View, CA 94042	(415)967-6973

9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (*Corporation, partnership, association, etc.*)	10. IF INCORPORATED, GIVE STATE AND DATE OF INCORPORATION	11. DATE OF INCORPORATION
Corporation	California	7 April 1969

12. NAME AND MAILING ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS:
Mr. D.V.Brondyke, Executive Vice President
FERRY-MORSE SEED COMPANY
111 Ferry-Morse Way, Drawer 7274, Mountain View, CA 94042

13. **CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:**

- [X] 13A. Exhibit A, Origin and Breeding History of the Variety *(See Section 52 of the Plant Variety Protection Act.)*
- [X] 13B. Exhibit B, Novelty Statement.
- [X] 13C. Exhibit C, Objective Description of the Variety *(Request form from Plant Variety Protection Office.)*
- [X] 13D. Exhibit D, Additional Description of the Variety.

14a. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? *(See Section 83(a). (If "Yes," answer 14B and 14C below.)* [ ] YES [X] NO

14b. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?	14c. IF "YES," TO 14B, HOW MANY GENERATIONS OF PRODUCTION BEYOND BREEDER SEED?
[ ] YES [ ] NO	[ ] FOUNDATION [ ] REGISTERED [ ] CERTIFIED

15a. DID THE APPLICANT(S) FILE FOR PROTECTION OF THIS VARIETY IN OTHER COUNTRIES? [ ] YES [X] NO *(If "Yes," give name of countries and dates.)*

15b. HAVE RIGHTS BEEN GRANTED THIS VARIETY IN OTHER COUNTRIES? [ ] YES [X] NO *(If "Yes," give name of countries and dates.)*

16. DOES THE APPLICANT(S) AGREE TO THE PUBLICATION OF HIS/HER (THEIR) NAME(S) AND ADDRESS IN THE OFFICIAL JOURNAL? [X] YES [ ] NO

17. The applicant(s) declare(s) that a viable sample of basic seed of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

December 18, 1980
(DATE)

FERRY-MORSE SEED COMPANY
D.V. Brondyke
(SIGNATURE OF APPLICANT)
D.V. Brondyke, Executive V.P.

(DATE)

(SIGNATURE OF APPLICANT)

1

FORM GR-470 (1-78)

ASSIGNMENT OF INTELLECTUAL PROPERTY

WHEREAS, HARRIS MORAN SEED COMPANY, a corporation duly organized and existing under the laws of the State of Maryland, having its principal place of business at 4511 Willow Road, Suite 3, Pleasanton, California 94588 ("**Assignor**"), has, pursuant to that certain Bill of Sale and Assignment dated as of June 30, 1997, transferred to FERRY-MORSE SEED COMPANY (CALIFORNIA), a corporation duly organized and existing under the laws of the State of California, having its principal place of business at 555 Codoni Avenue, P.O. Box 4938, Modesto, California 95352-4938 ("**Assignee**"), all of the intellectual property Assignor had adopted, used and was using as of the effective date of this Assignment, including without limitation, the intellectual property represented by the United States Plant Variety Protection Certificates of Assignor identified on Schedule A hereto (collectively, the "**Property**"); and

WHEREAS, on the date hereof, Assignee has changed its name to "Harris Moran Seed Company";

NOW, THEREFORE, effective by this instrument as of the close of business on June 30, 1997, and for good and valuable consideration, receipt of which is hereby acknowledged, Assignor hereby assigns to Assignee any and all right, title and interest worldwide in and to the Property and any and all recordations thereof, including, but not limited to, the use of the Property in any manner, all benefit of any and all prior use of the Property, and any and all rights to initiate claims or proceedings for past, present or future infringements of Assignor's rights, title and interest in and to the Property.

Dated: as of June 30, 1997

HARRIS MORAN SEED COMPANY

By: _____
Philip Ashcraft, President

NEWY01A:171511:1:09/26/97
26757-1

A496970

ENDORSED
FILED
In the office of the Secretary of State
of the State of California

JUN 30 1997

BILL JONES, Secretary of State

CERTIFICATE OF AMENDMENT

OF THE

ARTICLES OF INCORPORATION

OF

FERRY-MORSE SEED COMPANY (CALIFORNIA)

(a California corporation)

To the Secretary of State
State of California

Pursuant to the provisions of the General Corporation Law of the State of California, the undersigned officers of FERRY-MORSE SEED COMPANY (CALIFORNIA), a California corporation (the "**Corporation**"), do hereby certify as follows:

1. The name of the Corporation is Ferry-Morse Seed Company (California).

2. Article One of the Corporation's Articles of Incorporation, which relates to the name of the Corporation, is hereby amended in its entirety to read as follows:

One. The name of this Corporation is:
HARRIS MORAN SEED COMPANY.

3. The amendment herein provided for has been approved by the Corporation's Board of Directors.

4. The amendment herein provided for was approved by the written consent of the Corporation's sole shareholder in accordance with the provisions of Section 902 of the California General Corporation Law. The total number of outstanding shares of the corporation is 5,000.

IN WITNESS WHEREOF, each of the undersigned does hereby declare under the penalty of perjury that he or she signed the foregoing Certificate of Amendment as of June 30,

1997, in the Town of Modesto, State of California, in the official capacity set forth beneath his or her signature and that the statements set forth in this certificate are true of his or her own knowledge.

Yves Queste, President

Helen Andritsakis, Secretary

A493976

State of California

SECRETARY OF STATE

OFFICE OF THE SECRETARY OF STATE

VB

2 PAGES

I, *BILL JONES*, Secretary of State of the State of California, hereby certify:

That the attached transcript has been compared with the record on file in this office, of which it purports to be a copy, and that it is full, true and correct.

IN WITNESS WHEREOF, I execute this certificate and affix the Great Seal of the State of California this

JUN 3 0 1997

THE GREAT SEAL OF THE STATE OF CALIFORNIA
EUREKA
CALIFORNIA

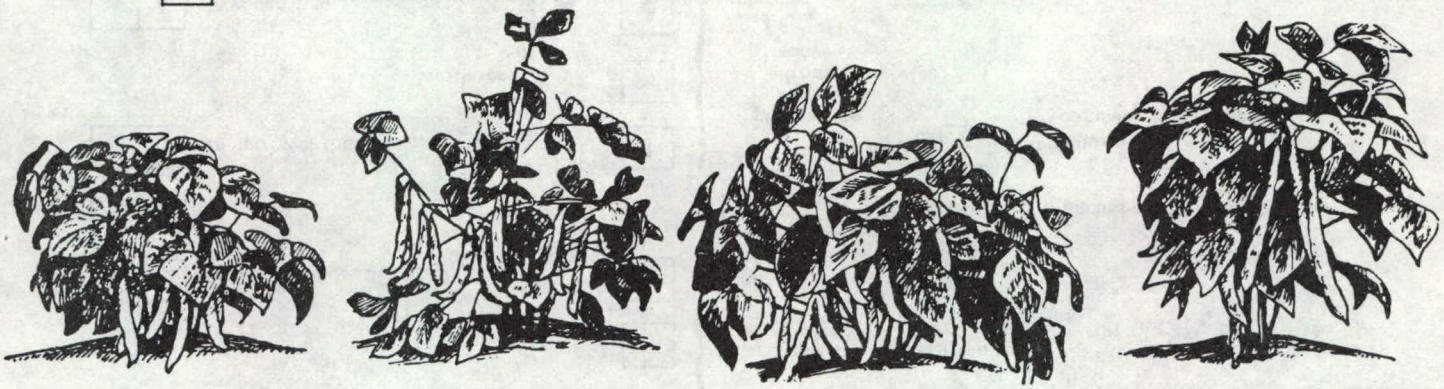
Bill Jones

Secretary of State

3. PLANT: (Cont'd)

[2] Pod position: 1 = low 2 = high 3 = scattered

[4] Bush form (illustrated below):



1 = spherical bush form 2 = stem bush form 3 = wide bush form 4 = high bush form

5 = other (specify) _____

4. LEAVES:

[1] 1 = smooth 2 = wrinkled [ ] 1 = dull 2 = glossy

[3] Size: 1 = small (Earliwax) 2 = medium 3 = large (Tendercrop)

[2] Color: 1 = light green (as light or lighter than Bountiful) 2 = medium green
3 = dark green (as dark or darker than Bush Blue Lake 290)

5. FLOWERS:

[1] Color: 1 = white 2 = cream 3 = pink 4 = lilac 5 = purple 6 = Other (specify)_____

[4][1] Days to 50% bloom

6. FRESH PODS: (Edible maturity, average for 20 pods)

[2] Exterior color: 1 = light green (as light or lighter than Bountiful)
2 = medium green
3 = dark green (as dark or darker than Bush Blue Lake 290)
4 = light yellow (Brittlewax)
5 = golden yellow (Cherokee Wax)
6 = green-red variagated (Horticultural)
7 = other (specify)

_____

% Sieve size distribution at optimum maturity for non-flat pods

Note:
1 = 4.76 mm to 5.76 mm
2 = 5.76 mm to 7.34 mm
3 = 7.34 mm to 8.34 mm
4 = 8.34 mm to 9.53 mm
5 = 9.53 mm to 10.72 mm
6 = 10.72 mm or larger

1	2	3	4	5	6
-	-	13	17	47	23

3 sieve	[1][0] cm length	[ ][7] mm width	[ ][6] mm thickness
4 sieve	[1][2] cm length	[ ][9] mm width	[ ][9] mm thickness
5 sieve	[1][5] cm length	[1][0] mm width	[1][1] mm thickness
6 sieve	[1][6] cm length	[1][3] mm width	[1][4] mm thickness

6

FORM APPROVED: OMB NO. 40-R3822

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, POULTRY, GRAIN & SEED DIVISION
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Bean)

OBJECTIVE DESCRIPTION OF VARIETY
BEAN (Phaseolus vulgaris L.)

NAME OF APPLICANT(S)
FERRY-MORSE SEED COMPANY

ADDRESS *(Street and No. or R.F.D. No., City, State, and Zip Code)*
111 Ferry-Morse Way
Drawer 7274
Mountain, View, CA 94042

FOR OFFICIAL USE ONLY

PVPO NUMBER
8100042

VARIETY NAME ~~OR TEMPORARY DESIGNATION~~
PRODUCER

Place numbers in the boxes (e.g. [0][8][9]) for the characters that best describe this variety. Measured data should be for SPACED PLANTS. Ranges may also be given. Royal Horticultural Society or any recognized color standard may be used to determine plant colors; designate system used: _____. The location of test area is Columbus, Wisconsin. Please answer questions appropriate for your variety if the information is available.

1. TYPE:

[2] 1 = Field *(dry-edible)* 2 = Garden

2. MARKET MATURITY:

[5][0] Days to edible pods

[ ][ ] Days to green shells

[ ][ ][ ] Days to dry seeds

[1][1][3][1] Heat units to edible pods

[ ][ ][ ][ ] Heat units to green shells

[ ][ ][ ][ ] Heat units to dry seeds

[ ][4] No. days earlier than ..... [1]

..... Same as .. [ ]

[ ][1] No. days later than ..... [8]

1 = Tendercrop
2 = Kentucky Wonder
3 = Kinghorn Wax
4 = White Kidney
5 = Michelite 62
6 = Dwarf Horticultural
7 = Bush Blue Lake 290
8 = Other (specify below)
PROVIDER

3. PLANT:

[1] 1 = Determinate 2 = Indeterminate

[ ][4][3] cm height

[ ][ ] cm shorter than ..... [ ]

Same as .. [ ] comparison variety from above

[ ][3] cm taller than ..... [8]

[3][3] cm spread

[ ][ ][4] Number primary branches near base

[ ][3] cm narrower than ..... [1]

width same as ... [ ] comparison variety from above

[2] Branching habit: 1 = compact 2 = open

[ ][4] cm wider than ..... [8]

[ ] Main stalk: 1 = brittle 2 = wirey

[1] 1 = stout 2 = thin

5

8100042

8. SEED SHAPE AND SIZE: (Cont'd)

[2] 1 = truncate ends 2 = rounded ends

[3][1] gm/100 seed

[ ][ ] gm/100 seed lighter than . . . . . [ ]

gm/100 seed same as . . . . [ ] comparison variety from page one

[ ][5] gm/100 seed heavier than . . . . . [8]

9. ANTHOCYANIN: (1 = absent 2 = present)

[1] Flowers [1] Stems [1] Pods [1] Seeds [1] Leaves

10. DISEASE RESISTANCE (0 = not tested 1 = susceptible 2 = resistant):

[0] Anthracnose (specify race below) _____

[0] Rust (specify race below) _____

[0] Powdery mildew

[0] Fusarium root rot

[0] Pythium root rot

[0] Rhizoctonia root rot

[0] Pythium wilt

[0] Angular leaf spot

[0] Bacterial wilt

[0] Halo blight (specify race below) _____

[0] Fuscous blight

[0] Red node virus

[0] Pod mottle virus

[2] Bean common mosaic virus (specify strain below) BV-1A

[2] Mosaic mottle

[0] Black root

[0] Bean yellow mosaic virus

[0] Curly top

[0] Other (specify below) _____

11. INSECT RESISTANCE: (0 = not tested 1 = susceptible 2 = resistant)

[0] Aphids

[0] Leaf hopper

[0] Lygus

[0] Pod borer

[0] Root knot nematode

[0] Seed corn maggot

[0] Thrips

[0] Weavils

[0] Other (specify below) _____

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12. PHYSIOLOGICAL RESISTANCE: (0 = not tested 1 = susceptible 2 = resistant)

[0] Heat [0] Cold [0] Drought [0] Air pollution

13. COMMENTS:

8

6. FRESH PODS: (Cont'd)

[3] Cross section pod shape: 1 = flat 2 = oval 3 = round 4 = heart

[2] Creaseback: 1 = present 2 = absent

[2] Pubescence: 1 = none 2 = sparse 3 = considerable

[2] Spur: 1 = straight 2 = slightly curved 3 = curved

[2] Constrictions: 1 = none 2 = slight 3 = deep

[2] Pod flesh: 1 = light 2 = medium 3 = dark

[1][4] mm spur length

[2] Fiber: 1 = none 2 = sparse 3 = considerable

[6] Number of seeds per pod

[1] Surface: 1 = smooth 2 = rough

[2] Suture string: 1 = present 2 = absent

[2] Seed development (Snap Bean): 1 = slow 2 = medium 3 = fast

[1] Machine harvest: 1 = adapted 2 = not adapted

[1] Pod flavor:
(1) Standard (Tendercrop)
(2) Mild Blue Lake (BBL 274)
(3) Strong Blue Lake (Pole FM1)
(4) Mild Romano (Roma)
(5) Strong Romano (Pole Romano)
(6) Other (specify) _____

7. SEED COAT COLOR:

[1] 1 = Monochrome 2 = Polychrome [1] 1 = shiny 2 - dull

[1] Primary color: 1 = white 2 = yellow 3 = buff 4 = tan

[ ] Secondary color: 5 = brown 6 = pink 7 = red 8 = purple 9 = blue 10 = black 11 = other (specify) _____

[1] Color Pattern: 1 = none 2 = splashed 3 = mottled 4 = striped 5 = flecked 6 = dotted

[ ] Secondary color location: 1 = hilar ring 2 = ventral surface 3 = sides 4 = dorsal surface 5 = not restricted to any area 6 = combination of location (specify below)

_____

[1] Hilar ring on colored seeds: 1 = absent 2 = narrow 3 = butterfly shaped

8. SEED SHAPE AND SIZE:

[1] Hilum view: 1 = elliptical 2 = oval 3 = round [4] Cross section: 1 = elliptical 2 = oval 3 = cordate 4 = round

[1] Side view:

1 = oval to oblong

2 = round

3 = reniform

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